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EXAMINER

LEFLORE, LAUREL E

ART UNIT PAPER NUMBER

2673

DATE MAILED: 08/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/085,326

Applicant(s)

HANSON ET AL.

Examiner

Laurel E LeFlore

Art Unit

2673

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 June 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-45 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 June 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 2, 11, 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Ashitomi et al. 5,216,411.

3. In regard to claim 1, Ashitomi discloses an electronic device comprising a cover coupled to a computing device. See column 1, lines 51-52, disclosing, "there is provided a cover for an indicator panel of electronic apparatus". Note in the figures and column 3, line 25, that the invention is on a video tape recorder. A video tape recorder is understood to be a computing device because it stores data and performs computations of and displays time.

The cover comprises a touch panel. See column 1, lines 63-64, disclosing, "The cover also includes a pair of touch sensitive panels made of a transparent material."

Ashitomi further discloses a display coupled to the computing device and separate from the cover. See figures 1-3 (particularly figure 3, in which the cover is open) depicting the display and column 3, lines 35-40, disclosing, "A display panel unit

5...consists of a rectangular display plate 6...and a rectangular display element (LCD) 7". Further see column 3, lines 57-61, disclosing, "The cover 10 is pivotably mounted through the hinges 11a, 11a on the front panel such that the cover is fitted into the recess 3a of the front panel 3 and hides therebehind the lid 4 and the display panel unit 5 when held in a closed position."

Note in figures 1-3 Ashitomi depicts that the cover is movable from a first position (shown in figure 2) in which the touch panel (in cover 10) overlays the display to a second position (shown in figure 3) in which the touch panel (in cover 10) does not overlay the display, and the cover does not comprise the display. See, in particular, figure 1, which is a good depiction of the cover 10 in an open position. Note that the cover 10 does not comprise display panel unit 5, but overlays it when rotated closed.

4. In regard to claim 2, Ashitomi discloses that the cover (10) is rotatable relative to the display (5), as depicted in figure 1. Also, see rejection of claim 1. Further see column 3, lines 57-58, disclosing, "The cover 10 is pivotable mounted through the hinges 11a, 11a on the front panel such that the cover is fitted into the recess of the front panel 3 and hides therebehind the lid and the display panel unit 5 when held in a closed position."

5. In regard to claim 11, Ashitomi discloses that the touch panel comprises a first sheet and a second sheet, wherein the first and second sheets include a conductive coating. See column 4, lines 26-37, disclosing, "The touch-sensitive panels 13 are made of a transparent thin-plate...The thin-plate includes a substrate made of glass [first sheet], a thin glass sheet [second sheet] opposed to the substrate...On the

substrate are placed a plurality of transparent electrodes of a thin-film type [conductive coating on first sheet]...On the thin glass sheet are placed a plurality of transparent electrodes of a thin-film type [conductive coating on second sheet]".

6. In regard to claim 16, Ashitomi discloses that the cover further comprises a frame adjacent to the touch panel. See rejection of claim 1, disclosing a frame means.

7. Claims 1, 3, 4, 17-19, 28, 31, 32, 38 are rejected under 35 U.S.C. 102(e) as being anticipated by Takahashi 6,662,244 B1.

8. In regard to claim 1, Takahashi discloses an electronic device comprising a cover coupled to a computing device. See figures 3 and 4, element 3, depicting the cover. Note in the figures and lines 17-18 of column 3 that a portable telephone is disclosed, which is a computing device. Also see column 9, lines 4-8, disclosing, "the present invention...may alternatively be applied to a portable information terminal to realize a PDA (personal digital assistant) or some other information terminal."

Takahashi further discloses that the cover comprises at least one of a touch panel and a lighting system, namely both. See column 4, lines 12-16, disclosing, "As shown in FIG. 5, the input/display section 11 [Note in figures 3 and 4 that the input/display section is part of cover 3.] comprises a transmission type LCD (liquid crystal display 13 adapted to transmit light and provided with the functional feature of displaying information and a touch panel 7 also adapted to transmit light".

Takahashi further discloses a display coupled to the computing device and separate from the cover. See element 5 of figure 3 and column 3, line 26-29, disclosing, "The first housing 2 has...a display section 5 for displaying data."

Takahashi further depicts in figures 3 and 4 that the cover 3 is movable from a first position (shown in figure 4) in which the touch panel 11 overlays the display 5 to a second position (shown in figure 3) in which the touch panel 11 does not overlay the display 5. Note in these figures (particularly figure 3) that the cover 3 does not comprise the display 5.

9. In regard to claim 3, Takahashi discloses that the cover is coupled to the electronic device by at least one hinge. See element 4 of figures 3 and 4 and column 3, lines 44-45, disclosing, "the first housing 2 and the second housing 3 are connected at the respective hinged ends thereof".

10. In regard to claim 4, Takahashi does not explicitly state that at least one wire is coupled to the hinge for providing an electrical connection between the cover and the computing device. However, see figure 7, depicting touch panel 7 and transmission type LCD 13, which are a part of the second housing 3, connected to control section 21. Note also that display section 5, which is part of the first housing 2, is connected to control section 21. Also see the rejection of claim 3, disclosing the first and second housing are connected at the hinges. Thus, it is inherent that at least one wire is coupled to the hinge for providing an electrical connection between the cover (housing 4) and the computing device (housing 2).

11. In regard to claim 17, Takahashi discloses a cover for a portable electronic device comprising a frame. See figures 3 and 4, element 3, depicting the cover. Note that the cover comprises a frame, that being a portable phone. Note in the figures and

lines 17-18 of column 3 that a portable telephone is disclosed, which is a portable electronic device.

Takahashi further discloses a touch panel coupled to the frame. See column 4, lines 12-16, disclosing, "As shown in FIG. 5, the input/display section 11 [Note in figure 4 that the input/display section is part of cover 3.] comprises ...a touch panel 7".

Takahashi further discloses a lighting system coupled to the frame and configured to illuminate a display which is separate from the cover when the cover is positioned proximate the display. See the Takahashi rejection of claim 1, which discloses display 5. This display is separate from the cover but included in the same frame, the portable phone (see figures 3 and 4). Column 4, lines 5-6 disclose, "The display section 5 comprises a rectangular liquid crystal display unit". It is inherent that an LCD display unit comprises some lighting system, since light is necessary to view the display. Note that figure 4 depicts the cover positioned proximate the display 5, while display 5 is viewable. A viewable LCD display must inherently be illuminated. Further see column 4, lines 62-67, disclosing, "in the closed state of the portable telephone set 1 [as depicted in figure 4],...the input/display section 11 becomes transparent and is located at a position suitable for the user to the information displayed on the display section 5 therethrough, the information displayed on the display section 5 is clearly visible to the user."

Takahashi further depicts in figures 3 and 4 that the cover 3 is movable from a first position (shown in figure 4) in which the touch panel 11 overlays the display 5 to a second position (shown in figure 3) in which the touch panel 11 does not overlay the

display 5. Note in these figures (particularly figure 3) that the cover 3 does not comprise the display 5.

12. In regard to claim 18, Takahashi discloses that the cover is coupled to a computing device housing. See rejection of claim 1. A portable telephone is understood to be a computing device. Also see column 9, lines 4-8, disclosing, "the present invention...may alternatively be applied to a portable information terminal to realize a PDA (personal digital assistant) or some other information terminal."

13. In regard to claim 19, Takahashi discloses that the display is coupled to a computing device. See rejections of claims 1 and 18.

14. In regard to claim 28, Takahashi discloses a portable electronic device comprising: a computing device having a housing and a display fixably attached to the housing. See figures 3 and 4 and column 3, lines 20-23, disclosing, "the portable telephone set 1...comprises a...first housing 2, a second housing 3". A portable telephone is understood to be a computing device. Also see column 9, lines 4-8, disclosing, "the present invention...may alternatively be applied to a portable information terminal to realize a PDA (personal digital assistant) or some other information terminal." Further see column 3, lines 25-29, disclosing, "The first housing 2 has...a display section 5".

Takahashi further discloses a cover panel having a frame and rotatably coupled to the housing and movable between a first position and a second position. The cover panel and frame are understood to be housing 3 of figures 3 and 4. Note a frame is depicted in the figures. Further see column 3, lines 44-48, disclosing, "the first housing

2 and the second housing 3 are connected...by way of the hinge section 4 so that the second housing 3 can be rotated around the hinge section 4 relative to the first housing 3."

Takahashi further discloses a lighting assembly coupled to the frame and a touch panel coupled to the frame. See column 4, lines 12-16, disclosing, "As shown in FIG. 5, the input/display section 11 [Note in figure 4 that the input/display section is part of cover 3 and coupled to the frame.] comprises a transmission type LCD (liquid crystal display 13 adapted to transmit light and provided with the functional feature of displaying information and a touch panel 7 also adapted to transmit light". The lighting assembly and touch panel are located proximate at least a portion of the display in the second position, as depicted in figures 3 and 4.

Note also in figure 3 that the cover 3 does not comprise the display 5.

15. In regard to claim 31, see rejection of claim 28.

16. In regard to claim 32, Takahashi discloses means for providing an electrical connection between the computing device and at least one of the lighting assembly and the touch panel. See figure 7, depicting touch panel 7 and transmission type LCD 13, which are a part of the second housing 3, connected to control section 21. Note also that display section 5, which is part of the first housing 2, is connected to control section 21.

17. In regard to claim 38, Takahashi discloses a method for using a portable electronic device. Note in the figures and lines 17-18 of column 3 that a portable telephone is disclosed, which is a portable electronic device.

Takahashi further discloses positioning a cover adjacent to at least a portion of a display attached to a computing device. See the rejection of claim 17 and figures 3 and 4, particularly figure 4, depicting cover 3 adjacent to display 5, both of which are attached to a computing device, the portable phone.

Takahashi further discloses that the cover comprises a touch panel and lighting assembly. See figures 3-5 and column 4, lines 12-16, disclosing, "As shown in FIG. 5, the input/display section 11 [Note in figure 4 that the input/display section is part of cover 3.] comprises...a touch panel 7 also adapted to transmit light".

See column 4, lines 5-6, disclosing, "The display section 5 comprises a rectangular liquid crystal display unit." It is inherent that at least a portion of display 5 is illuminated, since a liquid crystal display requires illumination in order to be viewed.

Takahashi further discloses entering information into the computing device using the touch panel. See column 5, lines 51-53, disclosing, "The touch panel 7 detects the pressure applied thereto by the user and sends a signal corresponding to the detected pressure to the control section 21."

Note in figure 3 that the cover 3 does not include the display 5 and the cover 3 may be moved out of the way of the display 5.

18. In regard to claim 42, see rejection of claim 38.

19. In regard to claim 44, Takahashi discloses in column 5, lines 51-53, "The touch panel 7 detects the pressure applied thereto by the user and sends a signal corresponding to the detected pressure to the control section 21." This application of pressure to a touch panel is understood to constitute drawing. Further see column 9,

lines 4-8, disclosing, "the present invention...may alternatively be applied to a portable information terminal to realize a PDA (personal digital assistant) or some other information terminal." It is inherent that the application of pressure to a touch panel of a PDA comprises at least one of writing or drawing.

20. In regard to claim 45, Takahashi discloses in column 5, lines 51-53, "The touch panel 7 detects the pressure applied thereto by the user and sends a signal corresponding to the detected pressure to the control section 21." It is inherent that the user applies such pressure with a finger, pen or stylus.

Claim Rejections - 35 USC § 103

21. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

22. Claims 5, 6, 8, 9 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ashitomi et al. 5,316,411 in view of Moon 6,567,137 B1.

In regard to claim 5, Ashitomi discloses an invention similar to that which is claimed in claim 5. See rejection of claim 1 for similarities. Ashitomi discloses that the cover comprises a lighting system and the lighting system comprises a light source. See column 1, lines 55-56, disclosing, "The cover includes a frame means" and column 2, lines 6-7, disclosing, "a plurality of light sources are provided in the frame means". Ashitomi does not disclose that the lighting system comprises a light guide.

Moon discloses an invention in which a cover comprises a lighting system comprising a light guide. See figure 4, element 60 and figure 5, depicting the electronic device in a closed state. Note that element 60 is hinged to fold over part of display module 54. In this way, element 60 is a cover. Also see column 3, lines 47-48, disclosing "an auxiliary light source 60 pivotally connected to the display module 54." Thus, the cover comprises lighting system. See figure 7 and column 4, lines 9-10, disclosing, "As shown in FIG. 7, the auxiliary light source 60 includes a lamp 61...a light guide plate 63".

Moon teaches in column 4, lines 24-27, "The light guide plate 63 emits light received via the incidence surface 63a through the output surface 63b to output light received as a line light source into a plane light source." Moon further teaches in column 4, lines 38-41, "The light emitted from the light guide plate 63 thus can be converged onto the effective display area of the reflective liquid crystal display panel 52."

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Ashitomi by having the cover comprising a light source also comprise a light guide, as in the invention of Moon. One would have been motivated to make such a change based on the teaching of Moon that such a light guide can "output light received as a line light source into a plane light source" and thus light can be "converged onto the effective display area".

23. In regard to claim 6, Ashitomi discloses that the light source comprises at least one light emitting diode. See line 51 of column 4 and element 23 of figure 1.

24. In regard to claim 8, Moon discloses a light bar adjacent to the light guide. Note lamp 61 of figure 7. This is understood to be a light bar. Further see the rejection of claim 5 for teaching of modifying the lighting system of Ashitomi with the lighting system of Moon.

25. In regard to claims 9 and 14, Ashitomi discloses an invention similar to that which is claimed in claims 9 and 14. See rejection of claim 5 for similarities. Ashitomi does not disclose that the light guide is configured to direct light toward at least a portion of the display when the cover panel is positioned over the display or that the display is at least one of a reflective and a transfective display.

Moon discloses an invention in which the light guide is configured to direct light toward at least a portion of a reflective display when the cover panel is positioned over the display. See figure 7 and column 4, lines 9-10, disclosing "light source 60 includes...light guide plate 63". Also see figure 4, depicting the cover panel (light source 60) directing light toward at least a portion of display 52 when positioned over the display, and column 2, lines 60-67, disclosing, "an auxiliary light source apparatus for a reflective liquid crystal display according to an embodiment of the present invention includes a main body; a reflective display module connected pivotally to the main body; and an auxiliary light source, the auxiliary light source being opened and closed from and to the reflective display module, for radiating light onto a display area of the reflective display module."

Moon further teaches in column 2, lines 48-50, that "An object of the present invention is to provide an auxiliary light unit for a reflective liquid crystal display that is adapted to radiate light uniformly."

It would have been obvious to modify the invention of Ashitomi, by having the light guide configured to direct light toward at least a portion of a reflective display when the cover panel is positioned over the display, as in the invention of Moon. One would have been motivated to make such a change based on the teaching of Moon to use such a configuration to radiate light onto a reflective display module and to radiate light uniformly.

Further in regard to claim 14, having the display panel be at least one of a reflective and a transfective display is common and conventional, and it is a matter of design choice as to which display type to use in general electronic devices.

26. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ashitomi et al. 5,316,411 in view of Moon 6,567,137 B1 as applied to claim 5 above, and further in view of Yamashita et al. 2004/0022050 A1.

27. In regard to claim 7, Ashitomi in view of Moon discloses an invention similar to that which is disclosed in claim 7. See rejection of claim 5 for similarities. Ashitomi in view of Moon does not disclose that the light guide is made of at least one of polymethyl methacrylate (acrylic) and polycarbonate.

Yamashita discloses a light device with a light guide, teaching in paragraph [0153], "Especially, a methacrylate resin such as polymethyl methacrylate (PMMA) is

suitable as a light guide material because of high transmittance of rays of light, high resistance to heat, good mechanical properties and good molding performance.”

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Ashitomi in view of Moon by making the light guide out of polymethyl methacrylate, as in the invention of Yamashita. One would have been motivated to make such a change based on the teaching of Yamashita that “polymethyl methacrylate (PMMA) is suitable as a light guide material because of high transmittance of rays of light, high resistance to heat, good mechanical properties and good molding performance.”

28. Claims 10 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ashitomi et al. 5,316,411 in view of Aufderheide et al. 6,555,235 B1.

29. In regard to claim 10, Ashitomi discloses an invention similar to that which is disclosed in claim 10. See rejection of claim 1 for similarities. Ashitomi does not disclose that the touch panel is an analog resistive touch panel.

Aufderheide discloses an invention that is a touch screen system. Aufderheide teaches, in the background of his touch screen system, that (see column 1, lines 11-17), “Generally, touch sensors or touch screens, such as, capacitive or resistive touch screens, are used in front of a computer driven display capable of variable images or in front of a non-variable display capable of providing fixed images. The touch sensor or touch screen provides an interface so that a human can provide commands to a computer or other control device.” Aufderheide further teaches in lines 41-42 of column

1, "Conventional resistive touch screens include matrix touch screens and analog touch screens."

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Ashitomi by having the touch panel be an analog resistive touch panel. One would have been motivated to make such a change based on the teaching of Aufderheide that analog resistive touch panels are among the conventional types of touch panels and provide "an interface so that a human can provide commands to a computer or other control device."

30. In regard to claim 12, Ashitomi discloses an invention similar to that which is disclosed in claim 12. See rejections of claims 1 and 11 for similarities. Ashitomi does not disclose that the conductive coating comprises indium tin oxide.

Aufderheide discloses in column 1, lines 54-57, "In analog resistive touch screen, the transparent conductive coatings...are often an indium tin oxide ("ITO") material. The conductive coatings have uniform sheet resistivity."

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Ashitomi, by having the conductive coating comprise indium tin oxide. One would have been motivated to make such a change based on the teaching of Aufderheide that the conductive coatings of analog resistive touch screens, which are conventional (see rejection of claims 10), "are often an indium tin oxide ("ITO") material. The conductive coatings have uniform sheet resistivity." Thus, ITO is a common and conventional material for the conductive coating and gives a uniform sheet resistivity.

31. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi 6,662,244 B1.

32. In regard to claim 15, Takahashi discloses an invention similar to that which is disclosed in claim 15. See Takahashi rejection of claim 1 for similarities. Further see column 4, lines 58-65, disclosing that when the phone is closed (as in figure 4), "the power supply to the transmission type LCD 13 is suspended...the input/display section 11 becomes transparent...the information displayed on the display section 5 is clearly visible to the user." While, Takahashi does not disclose that the display 5 is an emissive display, this seems inherent from the fact that it can be seen without the light source of the input/display section 11.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Takahashi by having the display be an emissive display. One would have been motivated to make such a change in view of the closed state of the portable telephone of Takahashi, in which no lighting is provided in the cover. Takahashi further teaches in lines 64-65 of column 4 that such a state allows "the user to see the information displayed on the display section 5".

33. Claims 13, 20 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi 6,662,244 B1 in view of Wilk 6,643,124 B1.

34. In regard to claims 13, 20 and 39, Takahashi discloses an invention similar to that which is claimed in claims 13, 20 and 39. See Takahashi rejection of claims 1, 17 and 38 for similarities. Takahashi does not disclose that the display is a flexible display.

Wilk discloses an invention in which a flexible display is disclosed. Wilk teaches in column 4, lines 45-52, "Lacking a requirement of rigidity, a flexible screen may be manufactured more thinly, and hence of reduced volume, relative to a rigid display panel. Flexible displays therefore reduce a volume requirement of a compactly folded unit. A flexible screen may in fact be the only way to obtain a given contiguous deployed display area on a small device, such as a cellular phone." would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the invention of Takahashi with that of Wilk by having the display of Takahashi be a flexible display. One would have been motivated to make such a change to the folded unit of Takahashi based on the teaching of Wild that flexible displays "may be manufactured more thinly, and hence of reduced volume, relative to a rigid display panel" and "therefore reduce a volume requirement of a compactly folded unit."

35. Claims 21, 40 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi 6,662,244 B1 in view of Wilk 6,643,124 B1 as applied to claims 20 and 39 above, and further in view of Branson 2003/0071832 A1.

36. In regard to claims 21, 40 and 41 Takahashi in view of Wilk discloses an invention similar to that which is disclosed in claims 21, 40 and 41. See rejection of claims 20 and 39 for similarities. Takahashi in view of Wilk does not disclose that the flexible display expands, comprising at least one fold line dividing the flexible display into at least two display sections.

Branson discloses a flexible display device that comprises at least one fold line dividing the flexible display into at least two display sections. See figure 1 and

paragraph [0027], disclosing "a user may fold the adjustable display device 100 along any of the vertical portions 109, 110, and 111, or along the horizontal portion 112".

Branson further teaches in paragraph [0004], "Through recent advances in display technology, displays which are flexible in nature and thus able to be folded have been developed." Further, in paragraph [0005], "A foldable display device is configured to fold in a similar manner as a wallet. In this manner, when the device is being carried around by a user, it may easily fit into the user's shirt or jacket pocket. When in use, the user may unfold the display device such that the display screen size of the device is many times larger than the folded size."

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Takahashi in view of Wilk by having the flexible display comprise at least one fold line dividing the flexible display into at least two display sections, and thus expand, as in the invention of Branson. One would have been motivated to make such a change based on the teaching of Branson that such folded displays have been developed and allow a device to become smaller for transport and many times larger for use.

Further in regard to claim 40, a foldable display that expands to a larger size is a large form factor display, as best understood.

37. Claims 22 –24, 33 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi 6,662,244 B1 in view of Agnew 2002/0084992.

38. In regard to claims 22 –24, 33 and 43, Takahashi discloses an invention similar to that which is disclosed in claims 22 –24, 33 and 43. See rejection of claims 17, 28

and 38 for similarities, including a light source. Takahashi does not disclose a light guide or a light source comprising of a light emitting diode.

Agnew discloses a combined touch panel and display light in which a light guide is used. See paragraph [0022], disclosing "an light source 16, such as a light emitting diode (LED) provides illumination to a light guide 18, which provides light for front illumination of display panel 14." Agnew further teaches in paragraph [0023], "Light guide 18 is designed to conduct light from source 16 across the area of the light guide and to alter the direction of the light downward into the display."

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Takahashi by having a light guide with a light source comprising a light emitting diode, as in the invention of Agnew. One would have been motivated to make such a change based on the teaching of Agnew that a light guide can conduct light from a light source "across the area of the light guide" and "alter the direction of the light downward into the display." Further, the use of a light guide in illumination of a display or touch panel is common and conventional in order to direct light onto the panel or display with less loss. Further, light emitting diodes are a common and conventional light source, and it is a matter of design choice to use an LED, rather than any other type of light source.

39. Claims 29 and 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi 6,662,244 B1 in view of Agnew 2002/0084992 as applied to claim 33 above, and further in view of view of Moon 6,567,137 B1.

40. In regard to claims 29 and 34, Takahashi in view of Agnew discloses an invention similar to that which is claimed in claims 29 and 34. See rejection of claim 33 for similarities. Takahashi Agnew does not disclose that the light guide is configured to direct light toward at least a portion of the display when the cover panel is positioned over the display or that the display is at least one of a reflective, a transflective, and an emissive display.

Moon discloses an invention in which the light guide is configured to direct light toward at least a portion of a reflective display when the cover panel is positioned over the display. See figure 7 and column 4, lines 9-10, disclosing "light source 60 includes...light guide plate 63". Also see figure 4, depicting the cover panel (light source 60) directing light toward at least a portion of display 52 when positioned over the display, and column 2, lines 60-67, disclosing, "an auxiliary light source apparatus for a reflective liquid crystal display according to an embodiment of the present invention includes a main body; a reflective display module connected pivotally to the main body; and an auxiliary light source, the auxiliary light source being opened and closed from and to the reflective display module, for radiating light onto a display area of the reflective display module."

Moon further teaches in column 2, lines 48-50, that "An object of the present invention is to provide an auxiliary light unit for a reflective liquid crystal display that is adapted to radiate light uniformly."

It would have been obvious to modify the invention of Takahashi in view of Agnew, by having the light guide configured to direct light toward at least a portion of a

reflective display when the cover panel is positioned over the display, as in the invention of Moon. One would have been motivated to make such a change based on the teaching of Moon to use such a configuration to radiate light onto a reflective display module and to radiate light uniformly.

Further in regard to claim 29, having the display panel be at least one of a reflective, a transfective, and an emissive display is common and conventional, and it is a matter of design choice as to which display type to use in general electronic devices.

41. Claims 25-27 and 35-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi 6,662,244 B1 in view of Aufderheide et al. 6,555,235 B1.

42. In regard to claims 25 and 35, Takahashi discloses an invention similar to that which is disclosed in claim 25. See rejection of claims 17 and 28 for similarities. Takahashi does not disclose that the touch panel is an analog resistive touch panel.

Aufderheide discloses an invention that is a touch screen system. Aufderheide teaches, in the background of his touch screen system, that (see column 1, lines 11-17), "Generally, touch sensors or touch screens, such as, capacitive or resistive touch screens, are used in front of a computer driven display capable of variable images or in front of a non-variable display capable of providing fixed images. The touch sensor or touch screen provides an interface so that a human can provide commands to a computer or other control device." Aufderheide further teaches in lines 41-42 of column 1, "Conventional resistive touch screens include matrix touch screens and analog touch screens."

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Takahashi by having the touch panel be an analog resistive touch panel. One would have been motivated to make such a change based on the teaching of Aufderheide that analog resistive touch panels are among the conventional types of touch panels and provide "an interface so that a human can provide commands to a computer or other control device."

43. Further in regard to claim 25 and in regard to claims 26 and 36, Takahashi discloses an invention similar to that which is disclosed in claims 26 and 36. Takahashi does not disclose that the touch panel comprises a first and second sheet, wherein at least one of the first and second sheets include a conductive coating.

Aufderheide discloses a touch screen system, teaching (see column 1, lines 26-38, "a conventional resistive touch screen includes two layers which are often referred to as a flex layer and a stable layer. Both the flex layer and the stable layer have transparent conductive coatings on opposing surfaces. A spacer material (or materials) separates the flex layer and the stable layer from each other. The spacer material ensures that an air gap or other relatively non-conductive medium separates the conductive coatings when the touch screen is not touched or depressed. When the outer front surface of the touch screen is deformed or pressed, the two transparent conductive coatings are brought into electrical contact."

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Takahashi by having the touch panel comprises a first and second sheet, wherein at least one of the first and second sheets

include a conductive coating. One would have been motivated to make such a change based on the teaching of Aufderheide that such an arrangement is found in a conventional resistive touch panel.

44. In regard to claims 27 and 37, Takahashi discloses an invention similar to that which is disclosed in claims 27 and 37. See rejections of claims 25, 26, 35 and 36 for similarities. Takahashi does not disclose that the conductive coating comprises indium tin oxide.

Aufderheide discloses in column 1, lines 54-57, "In analog resistive touch screen, the transparent conductive coatings...are often an indium tin oxide ("ITO") material. The conductive coatings have uniform sheet resistivity."

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Takahashi, by having the conductive coating comprise indium tin oxide. One would have been motivated to make such a change based on the teaching of Aufderheide that the conductive coatings of analog resistive touch screens, which are conventional (see rejection of claims 10), "are often an indium tin oxide ("ITO") material. The conductive coatings have uniform sheet resistivity." Thus, ITO is a common and conventional material for the conductive coating and gives a uniform sheet resistivity.

45. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi 6,662,244 B1 in view of Branson 2003/0071832 A1.

46. In regard to claim 1, Takahashi discloses an invention similar to that which is disclosed in claim 30. See rejection of claim 28 for similarities. Takahashi does not

disclose that the display panel is a foldable display that is movable between a collapsed and an expanded position.

47. Branson discloses a foldable display that is movable between a collapsed and an expanded position. See figure 1 and paragraph [0027], disclosing “a user may fold the adjustable display device 100 along any of the vertical portions 109, 110, and 111, or along the horizontal portion 112”. Branson further teaches in paragraph [0004], “Through recent advances in display technology, displays which are flexible in nature and thus able to be folded have been developed.” Further, in paragraph [0005], “A foldable display device is configured to fold in a similar manner as a wallet. In this manner, when the device is being carried around by a user, it may easily fit into the user’s shirt or jacket pocket. When in use, the user may unfold the display device such that the display screen size of the device is many times larger than the folded size.”

48. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Takahashi by having the display panel be a foldable display that is movable between a collapsed and an expanded position, as in the invention of Branson. One would have been motivated to make such a change based on the teaching of Branson that such folded displays have been developed and allow a device to become smaller for transport and many times larger for use.

Response to Arguments

49. Applicant has amended the specification and drawings to overcome the objections to the specification and drawings of Paper No. 4. Objection to the specification and drawings is withdrawn.

50. Applicant's arguments filed 3 June 2004 have been fully considered but they are not persuasive.

51. In regard to applicant's arguments on pages 10-11 of Paper NO. 5, applicant argues that "Ashitome et al. does not disclose, teach, or suggest 'a display coupled to the computing device and separate from the cover.' The cover in Ashitome et al. includes the display and the touch panel." However, examiner disagrees. See figures 1-3 of Ashitomi. Note that figures 1 and 3 depict the cover in an open position. Figure 1, in particular, is a good depiction of the open cover. Note also in figure 1, that display 5 is not in fact included in the cover, as applicant argues, but is separate from the cover and couple to the computing device.

52. Applicant further argues on page 11 that "Ashitomi et al. does not disclose, teach, or suggest that 'the cover is movable from a first position in which the touch panel overlays the display to a second position in which the touch panel does not overlay the display and the cover does not comprise the display.'" See rejection above regarding these claim limitations.

53. Applicant further argues on page 11 that "Takahashi does not disclose, teach, or suggest that 'the cover is movable from a first position in which the touch panel overlays the display to a second position in which the touch panel does not overlay the display and the cover does not comprise the display.'" See rejection above regarding these claim limitations.

54. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies

(i.e., “a cover having only a touch panel”) are not recited in the rejected claim(s).

Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

55. Applicant further argues on page 12 that “Takahashi does not disclose, teach, or suggest a cover for a portable electronic device that includes a touch panel and a lighting system and is configured to illuminate a display which is separate from the cover when the cover is positioned proximate the display.” See rejection above regarding these claim limitations.

56. In regard to applicant’s arguments on pages 12 of Paper No. 5, applicant argues that “Takahashi does not disclose, teach, or suggest a portable electronic device having a cover where the cover does not comprise the display”. However, note the display 5 (in figures 3 and 4) of Takahashi is not included in the cover comprising the touch panel (element 11).

57. In regard to applicant’s arguments on page 12 of Paper No. 5 that “The cover in Takahashi includes a display and does not include a lighting assembly that illuminates a portion of the display, the display not being a part of the cover”, see above rejection of claim 38. Note display 5 of Takahashi is not part of the cover 3. Also, although a specific lighting assembly for display 5 is not disclosed, such a feature is inherent, since display 5 is an LCD display, and an LCD display requires some type of lighting to be viewed.

58. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., applicant's arguments regarding claim 38 that "The cover in Takahashi...does not include a lighting assembly that illuminates a portion of the display") are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

59. The previous 35 USC 102(e) rejection of claims 1, 5, 8, 9 and 14 as being anticipated by Moon have been overcome with applicant's amendments. The rejection is withdrawn

Conclusion

60. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laurel E LeFlore whose telephone number is (703) 305-8627. The examiner can normally be reached on Monday-Friday 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on (703) 305-4938. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LEL
26 July 2004



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